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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,601	12/13/2001	Noboru Yamada	10873.784USWO	7257
7:	590 07/02/2003			
Merchant & Gould PO Box 2903 Minneapolis, MN 55402-0903			EXAMINER	
			FERGUSON, LAWRENCE D	
			ART UNIT	PAPER NUMBER
			1774	a
			DATE MAILED: 07/02/2003	-1

Please find below and/or attached an Office communication concerning this application or proceeding.

48	Application No.	Applicant(s)			
	09/936,601	YAMADA ET AL.			
Office Action Summary	Examiner	Art Unit			
	Lawrence D Ferguson	1774			
The MAILING DATE of this communication Period for Reply	appears on the c ver sheet wit	th the c rrespondence address			
A SHORTENED STATUTORY PERIOD FOR RETHE MAILING DATE OF THIS COMMUNICATIO - Extensions of time may be available under the provisions of 37 CFF after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, and If NO period for reply is specified above, the maximum statutory per Failure to reply within the set or extended period for reply will, by state. - Any reply received by the Office later than three months after the material patent term adjustment. See 37 CFR 1.704(b). - Status	N. R 1.136(a). In no event, however, may a re- reply within the statutory minimum of thirty- riod will apply and will expire SIX (6) MON [*] atute, cause the application to become AB.	eply be timely filed (30) days will be considered timely. THS from the mailing date of this communication. ANDONED (35 U.S.C. § 133).			
1) Responsive to communication(s) filed on 1	16 April 2003 .				
2a) ☐ This action is FINAL . 2b) ☑	This action is non-final.				
3) Since this application is in condition for all closed in accordance with the practice und					
Disposition of Claims					
4)⊠ Claim(s) <u>1-27</u> is/are pending in the application					
4a) Of the above claim(s) <u>24-27</u> is/are withd	rawn from consideration.				
5) Claim(s) is/are allowed.					
6) Claim(s) <u>1-9,11-19,22 and 23</u> is/are rejected	d.				
7) Claim(s) 10 and 20-21 is/are objected to.					
8) Claim(s) are subject to restriction an Application Papers	d/or election requirement.				
9) The specification is objected to by the Exam	iner				
10)☐ The drawing(s) filed on is/are: a)☐ ad		ne Examiner			
Applicant may not request that any objection to	•				
11) The proposed drawing correction filed on	* · · · · · · · · · · · · · · · · · · ·	• •			
If approved, corrected drawings are required in					
12) ☐ The oath or declaration is objected to by the	Examiner.				
Priority under 35 U.S.C. §§ 119 and 120					
13) Acknowledgment is made of a claim for fore	eign priority under 35 U.S.C. §	3 119(a)-(d) or (f).			
a) All b) Some * c) None of:					
1. Certified copies of the priority docume	ents have been received.				
2. Certified copies of the priority docume	2. Certified copies of the priority documents have been received in Application No				
 3. Copies of the certified copies of the papplication from the International * See the attached detailed Office action for a limit of the paper in t	Bureau (PCT Rule 17.2(a)).	· ·			
14) ☐ Acknowledgment is made of a claim for dome	•				
a) The translation of the foreign language 15) Acknowledgment is made of a claim for dome	provisional application has be	een received.			
Attachment(s)	pristing arrant of 61010.				
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s	5) Notice of Ir	Summary (PTO-413) Paper No(s) Informal Patent Application (PTO-152)			
S. Patent and Trademark Office	· · · · · · · · · · · · · · · · · · ·				

DETAILED ACTION

Response to Election

1. This action is in response to the provisional election mailed April 16, 2003.

Election of (Group I) Claims 1-23 is acknowledged rendering (Group II) Claims 24-27 to a non-elected species. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections – 35 USC § 103(a)

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-9, 11-19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0898273 in view of Nakamura et al. (U.S. 5,738,927).

EP '273 discloses an information recording medium comprising a substrate and a recording layer including a reversible phase change by irradiation provided above the substrate (page 2, lines 31-40) where the recording layer comprises Te, Ge, Sb and N (page 2, lines 38-40). EP '273 discloses the recording layer comprising crystallizing material and GeTeSb₂Te₃ (page 4, lines 32-38). Ep '273 does not show molar ratio,

ionic ratio, melting point or concentration. However, such molar ratio, ionic ratio, melting point and concentration are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the molar ratio, ionic ratio, melting point and concentration, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. molar ratio, ionic ratio, melting point and concentration) fails to render claims patentable in the absence of unexpected results. All of the aforementioned limitations are optimizable as they directly affect the mechanical strength and durability of the recording media. As such, they are optimizable. It would have been obvious to one of ordinary skill in the art to make the recording medium with the limitations of the molar ratio, ionic ratio, melting point and concentration since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 USPQ 215 (CCPA 1980). EP '273 does not disclose a lattice defect.

Nakamura teaches a recording media (column 5, line 4) comprising a crystal lattice defect (column 5, lines 51-67) comprising Ag or Al and a single crystal structure (column 8, lines 39-67). Nakamura teaches a crystal structure having a cubic NaCl structure (column 9, lines 35-42). EP '273 and Nakamura are analogous art because they are both directed to recording media. It would have been obvious to one of ordinary skill in the art to include a crystal lattice defect comprising NaCl and Ag or Al because

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Nakamura teaches so that the components of the recording media are highly oriented and durable (column 5, lines 50-59).

- 4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohno et al. (U.S. 6,115,352) discloses an information recording medium comprising a substrate and a phase change type recording layer having a crystalline state and amorphous state (abstract). Additionally, Kitaura et al. (U.S. 6,432,502) discloses a recording medium having a substrate and a phase change layer changing in phase reversibly between crystalline state and an amorphous state (abstract).
- 5. Claims 10 and 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the

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examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)

308-2351.

Lawrence D. Ferguson

Examiner Art Unit 1774

CYNTHIA H. KELLY SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 1700